

REMARKS

Claims 1, 2, 5-14, 28, 30-36, 38-43, 48-51, and 65 are pending. Claims 1, 2, 5, 7-12, 14, 28, 30-36, 38, 39, 42, 43, 48-51, and 65 are rejected. Claims 6, 13, 40, and 41 are objected to. By this amendment, claim 48 has been amended.

Claim Rejections - 35 U.S.C. §102(b)

Claims 48-50 are rejected under 35 U.S.C. §102(b) as being anticipated by Drummond (USPN 5,906,676). Independent claim 48 has been amended to recite, in part, “continuously drawing powder entrained air from said spray booth during a spraying operation by operation of a cyclone; and conveying powder, separated from the air by operation of the cyclone, from the cyclone to said application system under vacuum by applying a vacuum to a vacuum line that is connected . . . at a second end thereof to a vacuum receiver that houses a filter.” Drummond teaches an overspray reclaim system having a cyclone separator 170 for separating overspray particles from an air stream. Overspray particles that are centrifugally separated from the air stream exit the small end 182 of the separator 170 to be collected in a collection hopper 186, which may simply be a box having an opening to atmosphere (see col. 5, lines 52-59). Air that exhausts from the separator 170 via outlet 194 flows into the first member 202, then through the filter 210 (see col. 7, lines 16-20). Thus, Drummond does not teach conveying powder, separated from the air by operation of the cyclone, from the cyclone to said application system under vacuum, as recited in amended claim 48.

Therefore, applicants respectfully submit that claim 48, as amended, and the claims that depend therefrom, are allowable over the art of record.

Claim Rejections - 35 U.S.C. §103(a)

Claims 1, 2, 5, 7, 8, 10-12, 14, 28, 30, 31, 38, 39, 42, 43, 51 and 65 are rejected under 35 U.S.C. §103(a) as being unpatentable over Trevisan (USPN 5,421,885) in view of Drummond. Claims 9 and 32-36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Trevisan in view of Drummond, and further in view of Shaneyfelt.

Claim 1

Independent claim 1 recites, in part, “a vacuum source connected to said cyclone through said vacuum line and producing a negative pressure within said vacuum line between said first and second ends to transfer powder overspray from a powder outlet of said cyclone to said second powder collection device, wherein said vacuum source is connected to a vacuum receiver that houses a filter assembly, said vacuum receiver receives powder from said cyclone and supplies said cyclone-received powder to a powder feed hopper.”

Trevisan teaches using an auxiliary fan 36 to draw powder through a pipe 37 from twin centrifugal separators 29 to a small intermediate centrifugal separator 38 (see col. 4, line 40 to col. 5, line 10). Trevisan does not disclose drawing powder into a vacuum receiver or device that houses a filter. Combining Drummond with Trevisan does not overcome the deficient teaching of Trevisan.

As discussed above in relation to the rejection of claim 48, Drummond teaches using a filter 210 positioned after the air outlet of a cyclone separator to filter residual particulates from the air that were not removed by operation of the cyclone. Drummond does not teach or suggest a vacuum receiver that houses a filter assembly, that receives powder from a powder outlet of the cyclone, and that supplies the cyclone-received powder to a feed hopper.

Furthermore, one of ordinary skill in the art would not modify Trevisan based on the teachings of Drummond to include a vacuum receiver as recited in claim 1. Trevisan already includes a filter 32 for filtering the air discharged by the centrifugal separator(s) 29 (see col. 4, lines 49-50), as taught by Drummond. Still further, one of ordinary skill would not modify the small intermediate centrifugal separator 38 of Trevisan to include a filter based on the teachings of Drummond. Centrifugal separators rely on forcing air to flow in a cyclone-like manner to centrifugally separate particulate matter from an air stream. Adding a filter would likely reduce the ability of the separator to separate particulate matter due to the filter disrupting the air flow in the separator.

Therefore, applicants respectfully submit that the rejection of claim 1, and the claims that depend therefrom, is unsupported by the art and should be withdrawn.

Claims 28 and 65

Independent claim 28 recites, in part, “a vacuum device that conveys powder from a powder outlet of said cyclone through a vacuum line that is under negative pressure to a feed hopper; said vacuum device housing a filter.” Independent claim 65 recites, in part, “a vacuum source connected to a vacuum receiver that houses a filter assembly, wherein said vacuum source receives powder overspray from said cyclone to transfer powder overspray from a powder outlet of said cyclone to a feed hopper in a feed center.” Applicants respectfully submit that the rejection of claims 28 and 65, and the claims that depend therefrom, are unsupported by the art of record for the same reasons that the rejection of claim 1 is unsupported. Therefore, the rejections should be withdrawn.

Claims 9 and 32-36

Shaneyfelt is cited in the Office action for the proposition that it discloses a spray booth with a rotatable floor. Combining Shaneyfelt with Trevisan and Drummond does not render claims 9 and 32-36 obvious for the same reasons that the rejection of claims 9 and 32-36 are unsupported by the art of record and should be withdrawn.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants believe that all of the claims in this case are now in condition for allowance and an indication to that effect is respectfully requested.

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